

Easily distinguished from *Planorbis corneus* by the very large size of the first whorl (which is wrinkled as well as striated), by the number of whorls, and by the great size of the aperture. It holds a place intermediate between *Planorbis corneus* and some American allied species, such as *Planorbis trivolvis*. I obtained this fine shell during a hurried and dangerous visit to the eastern part of the plain of Metidja, where I found it in a fountain along with *Physa contorta*.

43. *Planorbis marginatus*, Drap. (An *Planorbis marmoratus*, Michaud, Test. Alg.?) Ditches at Boufarik.

#### MELANOPSIS.

44. *Melanopsis buccinoidea*, Ferr. On stones in the stream at Boufarik.

#### PISIDIUM.

45. *Pisidium Lumstenianum*, nov. sp. Pl. XII. fig. 4.

*P.* testa ovata, oblique trigona, tumida, inæquilatera, transversim striata, natibus prominentibus, roseo-corneis.

Br.  $\frac{1}{3}$ ; length  $\frac{1}{10}$  inch.

Fountains in the Metidja.

---

XXIX.—*On the Habits of the King of the Vultures* (*Sarcorrhampus papa*). By ROBERT H. SCHOMBURGK, C.M. B.G.S., Lyceum of Natural History in New York, Honorary Member of the Bristol Institution, &c.

THE most beautiful of the deformed family of the vultures is doubtless the *Sarcorrhampus papa*, upon which in consequence the royal title has been bestowed. It is an inhabitant of South America, and appears to be abundant in Guiana, where it has come under my notice from the coast regions to the equator. I might compare it in size, without going to actual admeasurement, to a full-grown turkey cock. Its bill is two inches in length, and its depth amounts almost to the same measure, being 1.9 inch. The upper mandible is covered by the cere, and straight in the beginning, but bent at its point to a hook; the lower mandible is straight, rounded, and scarcely inflected. The nostrils, which are within the cere, are lateral and situated close to the ridge of the upper mandibles; they open obliquely towards the point of the beak:

the cere is of a bright orange colour, and continues towards the cheeks, where it takes a blueish hue. The beak is from the margin of the cere for the extent of a few lines of a deep black colour, and from thence it is red to its point. The ridge of the upper mandible is surmounted by a fleshy caruncle of red colour, which the bird can elevate at will or allow to hang over the beak. From the base of the lower mandible arises a naked skin of orange colour, which stretches towards the lower part of the throat, surrounding likewise the fore and hinder part of the head, the cheeks and ears, appearing as a wrinkled skin which might be almost called warty, and which is covered with black hairs. These are much thicker from the regions of the eyes towards the sinciput, and continue along the cervix to the nape, where there is a raised integument; as the crown is almost bare, the head might be compared to the tonsure of a monk. The wrinkled skin possesses a blueish hue, and contrasts strongly with the bright orange of the neck. The eyes are surrounded by a red skin; the iris is of a pearly white, which is still more set off by the jet black pupil. Below the nape, the neck is encircled by a ruff of long soft feathers of a deep ash colour, which partly covers the breast, and as one half of the feathers are directed upwards and the other towards the shoulders and breast, the down of these feathers becomes visible and forms a white ring in the centre of the ruff. The interscapular regions, the scapulars, and coverts are cream colour with a roseate hue; the other wing feathers, the rump, and the tail are deep black; the breast, belly, and thighs white. The wings reach nearly to the end of the tail; the second and third quill are the longest; the tail is rounded at its extremity. The legs are robust; the tarsus reticulated, with three toes before and one behind; warty beneath; the talons bent and an inch long. The middle toe is the longest and united to the extreme one at the base.

The female is somewhat larger than the male, and of a uniform black, with the exception of the feathers under the wing, which are white. The caruncle is of less size than that of the male, and not of that intense black as the feathers; this is likewise the case with the naked skin about the neck.

In appearance the king of the vultures is one of the most

magnificent birds among the feathered tribe ; however its character corresponds little with its showy vesture ; it is voracious, unclean, and indolent. Their sense of smelling is uncommonly sharp, but it is only used to scent the carrion ; and while the eagle devours nothing but what his talons and beak have deprived of life, and does not stoop to feed on carcasses, the odour of putrefaction possesses every allurements for the vulture ; and it gorges itself to such a degree, that after a full meal it cannot rise upon its wings for a considerable time. The bird has then a most disagreeable smell, which becomes almost insupportable, if it be skinned ; at other periods, and when it has been pressed hard for food, it does not emit that unpleasant odour.

The females appear to be more numerous than the males ; but their number has been much exaggerated, they having been frequently confounded with the common carrion-crow (*Cathartes aura*), with whom they feed ; indeed the latter may be considered their scouts ; and the common report is well founded, that the carrion-crow does not touch the carcass until their majestics and spouses, of which there are frequently several present at the entertainment, have satisfied themselves to repletion : during that time they are silent and covetous spectators, and keep a proper distance, but scarcely have the others done when they fall to with voracious appetite.

Their skill in preparing skeletons is astonishing : they not only scrape off the flesh with the greatest nicety, but likewise the ligaments and periosteums, without subjecting them previously to maceration ; indeed they are perfect masters in their art, and vie with the best Anatomical Instructor. When we ascended the river Berbice, a cayman was shot and dragged on shore to leave to the vultures and carrion-crows the trouble of cleaning the bones. On our return a month after, they had performed the operation to our entire satisfaction, and we concluded from the whiteness and dryness of the bones that a fortnight might have elapsed since they finished. The skeleton was subsequently unfortunately lost at the Christmas Cataracts by the upsetting of the corial\*. At a later period

\* A corial is a boat made solely of the trunk of a tree ; they are from 20 to 40 feet long, and often 4 to 6 feet wide.

I ascertained the fact, that the carrion-crows do not touch the carcass until the vultures have satisfied themselves. I was at a Mr. Sander's at the upper river Berbice. On the opposite shore, the carcass of a cow which died the previous day had attracted a numerous assembly of carrion-crows; they were perched on the dry branches of some trees which commanded a view of the carcass; there they sat, silent and mournful, their attitude not upright but stooping; their wings partly hanging down, and their vesture being black, it appeared they had assembled to bewail the fate of the departed. There they remained the whole morning; none touched the carcass, nor did they change their position. In the afternoon our attention was attracted by the cry of the negroes, "They come, they come!" We went out, and looking towards the opposite shore, we observed four male vultures and several females flying in circles over the place where the cow was lying; the circles became narrower and narrower, and at last they lighted upon some trees in the neighbourhood; this circumstance was hailed by the sable crew, they extended their wings and became unruly, but the former silence was soon restored. The vultures did not immediately attack the dead animal; they withdrew their neck in the ruff, and remained ogling it for some time. "Tem be the judshes, and tem sit in court now to hold judshement o'er em," observed the negroes who were standing around us; and the remark was so adapted and striking, that we could not help smiling at it. After half an hour had elapsed, one of the male vultures commenced the entertainment, and his example was soon followed by the others. Towards evening the former had satisfied their appetite, and the carrion-crows commenced their feast, where harmony however did not appear to be presiding, and scuffles and quarrels took place when it concerned a favourite morsel.

They soar uncommonly high and possess great powers of flight. Like the eagle, they hover over one and the same spot for a length of time, poise their wings, and please themselves in aerial evolutions, until their sharp scent and sight combine to show them the direction where their appetite may be satisfied, when they descend in gyrotory motions. They do not decline animal food of any description, provided it does not



possess life, as they are not known to kill. It is a cowardly bird, and does not oppose in single combat an animal from which it expects resistance. They rise with heavy wings and with great noise. I have not been able to ascertain where they build their nests, very likely in the most retired places. The carrion-crow (*Cathartes aura*) constructs it near the coast in the sugar fields on the ground. The young males of the king of the vultures are in their first year black; they become black and white-spotted during the second, and are only in full plumage during the third year.

While we camped in Curassawaka, a Carib settlement at the river Rupunony, the Indians brought us three males and a female alive. One of the former had been caught in a snare; the others had been shot with the Sarbacan or blowpipe, the arrow poisoned with diluted ourari, so that it only stupified without killing. One of them died, and the other managed to get away; however one of the males and the female we had for several weeks. The female became much sooner reconciled to her fate than the male, and allowed herself to be approached; but unfortunately she got loose, and as we did not wish to give her up on easy terms, a Maconsi Indian was desired to shoot her with a poisoned arrow; the poison was not diluted, and she fell a few minutes after from the tree, and all our endeavours to save her by giving her sugar and water, which the Indians say is an antidote, proved in vain. A fine and full-grown male bird was therefore only left of the four. He was indolent while with us, and at the last moment, when he was sent to Demerara, he was not tamer than when we received him. When we approached, or a dog came near him, he would fly up or stretch his neck forth, and attempt to pick with the beak, making at the same time a noise like a goose when irritated or when defending its young. He was generally fed upon fish, and never declined when well to eat them fresh; for that purpose he kept his food with his talons and spread his wings, picking the flesh from the bones, if the fish was large, but swallowed it entire if of a small size. In his voracity he frequently miscalculated the size of his gullet, and the fish remained often for some time in it before it was entirely

swallowed. He was not partial to entrails, and when they were thrown before him, he would put his feet upon them and relax immediately to his former stooping position. Before he commenced attacking his food, he would turn his head and look at it in a squinting way. His eyes were beautiful; indeed I do not know an animal which could vie with those of the king of the vultures; the purest pearl is not whiter than his iris. During rainy weather, and during a few days when he was sick, he withdrew his neck completely in the ruff; it even covered partly the head, leaving only the forehead and the beak out. He could not endure the full heat of the sun; he panted and showed every sign of being uncomfortable.

They are easily tamed if taken young. Mr. Glen in Demerara had a female bird which was so tame that it would lay itself before its master's feet; and its power of recognition was so great, that if it happened to be on the roof of the highest house when Mr. Glen walked by in the street, it would descend rapidly as an arrow, and lie down before his feet, as it had been accustomed to do. I saw a full-grown male bird which was brought from Surinam to Demerara; it was perfectly tame, and was ultimately sold to the master of an English merchantman for the enormous price of twenty pounds sterling.

The Indians when we travelled with them never failed to attract our attention to this bird when they discovered one soaring in the air. The Maconsis call it Cassana, the Wape-shanas Panaourou, the Warrows Wouraerepo.

---

XXX.—On the *British Species of Lotus*. By CHARLES C. BABINGTON, M.A., F.L.S., F.G.S., &c.

THE British species of *Lotus* have now been the subject of controversy for many years, some most eminent botanists considering all our plants to be referable to only two (*corniculatus* and *angustissimus*), others supposing that they constitute four, if not five distinct species; but after a careful examination of numerous individuals, in their native localities, I have come to the conclusion that we possess four quite distinct